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EXAMINER

ODLAND, DAVID E

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,831

Applicant(s)

RADHAKRISHNAN ET AL.

Examiner

David Odland

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1,16 and 28 recite "...a GSM core infrastructure..." It is unclear what is meant by a 'core infrastructure'. It is noted that item 14 in figure 1 shows a 'GSM core' however, it is unclear what element or elements are present in item 14 that make up a 'GSM core infrastructure'.

Claims 2-5,17-27 and 29-41 are rejected because they depend on rejected claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2662

4. Claims 1-5, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (USPN 5,537,474), hereafter referred to as Brown.

Referring to claim 1, Brown discloses a code division multiple access (CDMA) mobile station (MS) (a CDMA compliant subscriber unit (SU) (see column 5 lines 13-38 and figure 2)), comprising:

a radio circuit configured to communicate with a CDMA radio access network (RAN) using CDMA protocol (the SU has circuitry to communicate with a CDMA network (see column 5 lines 13-38 and figure 2)); and

a subscriber circuit configured to communicate with a GSM subscriber identity module (SIM) (the SU also has circuitry to communicate with a subscriber identification unit (SIU) which comprises a SIM (see column 5 lines 13-38 and figure 2)) to permit the MS to authenticate itself with a GSM core infrastructure, whereby use of the CDMA RAN with the GSM core infrastructure is facilitated (the SU communicates with the CDMA network by authenticating itself through the use of the SIU which is a uses a GSM based protocol ((see column 5 lines 13-38 and figure 2))).

Referring to claim 2, Brown discloses the system discussed above. Furthermore, Brown discloses that the system further comprises the SIM (the SU uses a SIM (see column 5 lines 13-38 and figure 2)).

Referring to claim 3, Brown discloses the system discussed above. Furthermore, Brown discloses that the MS reads at least one identifier from the SIM upon engagement of the SIM

Art Unit: 2662

with the MS (the SU reads an unique identity number from the SIM (see column 5 lines 39-67 and figure 2)).

Referring to claim 4, Brown discloses the system discussed above. Furthermore, Brown discloses that the identifier is an International Mobile Subscriber Identity (IMSI) (the identifier is an IMSI number (see column 5 lines 39-67 and figure 2)).

Referring to claim 5, Brown discloses the system discussed above. Furthermore, Brown discloses the IMSI being transmitted by the MS in at least one message (the IMSI is reported to the GSM system (see column 10 lines 8-15)).

5. Claims 16-18 and 28-32, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Ahn et al. (Publication number 2002/0061745), hereafter referred to as Ahn.

Referring to claim 16, Ahn discloses a method for facilitating the use of a CDMA RAN with a GSM core infrastructure (a CDMA system is used in conjunction with a GSM system (see figure 3 and abstract)), comprising:

engaging a SIM with a CDMA MS (a CDMA mobile terminal has a SIM installed thereto (see abstract and figure 3));

transmitting at least one IMSI stored on the SIM to an MSC using a CDMA RAN (the CDMA terminal transmits the IMSI to the MSC (see page 3 paragraph 0043)).

using the IMSI, authenticating the SIM with a GSM core infrastructure (the IMSI is used to authenticate the SIM of the CDMA terminal with the GSM network (see page 3 paragraphs 0045-0051); and

Art Unit: 2662

based on the authenticating act, registering the MS with SIM with the MSC (if the authentication is successful and it is determined the user is legitimate, the CDMA terminal is registered with the MSC (see page 3 paragraph 0053-0054)).

Referring to claim 17, Ahn discloses the system discussed above. Furthermore, Ahn discloses transmitting the IMSI in at least one message (the IMSI is transmitted to the MSC (see page 3 paragraph 0043)).

Referring to claim 18, Ahn discloses the system discussed above. Furthermore, Ahn discloses that the message is a registration message (the IMSI is send to the MSC to in a registration request from the CDMA terminal see page 3 paragraph 0043)).

Referring to claim 28, Ahn discloses a system for facilitating the use of a CDMA RAN with a GSM core infrastructure (a CDMA system is used in conjunction with a GSM system (see figure 3 and abstract)), comprising:

an MSC communicating with the CDMA RAN using CDMA protocol (an MSC communicates in a CDMA network using the CDMA protocol (see page 3 paragraphs 0043 and 0044)), the MSC also communicating with the GSM core infrastructure using GSM protocol (the MSC communicates with the GSM network (see page 3 paragraphs 0043-0045));

at least one MS communicating with the CDMA RAN and having a registration in the GSM core infrastructure (the user CDMA terminal is a GSM service subscriber (see paragraph 0045)); and

Art Unit: 2662

at least one SIM detachably engageable with the MS for authenticating the MS with the GSM core infrastructure (the CDMA terminal has a SIM card installed thereto and is used to authenticate the terminal (see page 3 paragraphs 0042-0046)).

Referring to claim 29, Ahn discloses the system discussed above. Furthermore, Ahn discloses that the MS reads at least one identifier from the SIM upon engagement of the SIM with the MS (the CDMA terminal reads and transmits the IMSI to the MSC (see page 3 paragraph 0043)).

Referring to claim 30, Ahn discloses the system discussed above. Furthermore, Ahn discloses that the identifier is an International Mobile Subscriber Identity (IMSI) (the identifier is an IMSI number (see page 3 paragraph 0043)).

Referring to claim 31, Ahn discloses the system discussed above. Furthermore, Ahn discloses transmitting the IMSI in at least one message (the IMSI is transmitted to the MSC (see page 3 paragraph 0043)).

Referring to claim 32, Ahn discloses the system discussed above. Furthermore, Ahn discloses that the message is a registration message (the IMSI is send to the MSC to in a registration request from the CDMA terminal see page 3 paragraph 0043)).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Thomas (USPN 6,014,558), hereafter referred to as Thomas.

Referring to claims 6, 7 and 8, Brown discloses the system discussed above. Brown does not disclose that the messages are registration, origination or page response messages. However, as shown in Thomas it is a well-known standardized process in the art for mobile units to transmit mobile subscriber identity numbers in messages related to registration, origination and paging messages (see column 2 lines 43-65). It would have been obvious to one skilled in the art at the time of the invention to transmit the IMSI number disclosed in Brown in registration, origination and page response messages, as taught in Thomas, because sending such identification numbers in these kinds of messages is well known and therefore doing so would reduce developmental costs that would be incurred if an entirely new type of message was to be implemented.

7. Claim 9, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Tiedemann (USPN 5,862,471), hereafter referred to as Tiedemann.

Referring to claim 9, Brown discloses the system discussed above. Brown does not disclose that the MS selectively displays at least one service provider name. However, Tiedemann discloses of a system wherein mobile stations display the name of the service provider that is serving the mobile station (see column 2 lines 50-58)). It would have been obvious to one skilled in the art at the time of the invention to have the SU of Brown display the name of the service provider, as taught in Tiedemann, because as Tiedemann points out in column 2 lines 56-58, by knowing the name of the service provider a user can make a more

Art Unit: 2662

educated estimate of roaming costs. This is particularly beneficial in Brown since the SU in Brown roams between GSM and CDMA networks.

8. Claim 10, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Skog (USPN 5,930,701), hereafter referred to as Skog.

Referring to claim 10, Brown discloses the system discussed above. Brown does not disclose that the MS selectively displays at least one mobile directory number. However, Skog discloses a system wherein the mobile stations display directory numbers (see column 8 lines 45-51)). It would have been obvious to one skilled in the art at the time of the invention to display directory numbers, as taught in Skog, in the system of Brown because as Skog points out in column 8 lines 48-51 displaying the number enables the mobile subscriber to be informed of the calling part directory number associated with an incoming call that was attempted when the mobile station was unreachable. This would make the system of Brown more reliable and versatile in that when the mobile station in Brown is powered-up after being powered down for a period of time the user of the mobile station will know the number of the person who was trying to reach them during the powered-down period.

9. Claim 11, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Maruyama (USPN 5,646,604), hereafter referred to as Maruyama.

Referring to claim 11, Brown discloses the system discussed above. Brown does not disclose that the MS permits a user to use the MS only if the user inputs a predetermined verification value to the MS. However, Maruyama discloses a system wherein a user of a mobile

Art Unit: 2662

unit must insert a personal identification code in order to operate the mobile station (see abstract and column 1 lines 19-57)). It would have been obvious to one skilled in the art at the time of the invention to implement the code inserting operation taught in Maruyama, in the system of Brown because doing so would increase the level of security associated with the mobile unit by preventing individuals that do not know the personal identification code from using the mobile unit.

10. Claims 12-14, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Cassidy et al. (USPN 6,480,725), hereafter referred to as Cassidy.

Referring to claim 12, Brown discloses the system discussed above. Brown does not disclose that the MS terminates a call upon removal of the SIM from the MS. However, Cassidy discloses a system comprising mobile stations wherein when SIM cards are removed from the mobile station any call in progress is terminated (see column 5 lines 1-9)). It would have been obvious to one skilled in the art at the time of the invention to terminate calls made by the mobile unit in Brown when the SIM is removed, as taught in Cassidy, because doing so would increase security of the system. Namely, since the SIM card is used for encrypting messages communicated by the mobile station, removing the SIM would submit any communications made by the mobile station to possible malicious entities; therefore terminating the call when the SIM is removed will prevent this from occurring.

Referring to claim 13, Brown discloses the system discussed above. Brown does not disclose deleting the subscriber information upon removal of the SIM from the MS. However, it

Art Unit: 2662

would have been obvious to one skilled in the art at the time of the invention to delete the subscribers information when the SIM is removed because since the SIM is removed the mobile unit is not being used to make calls and therefore there is no need to retain the subscribers information any longer. Furthermore, retaining the subscribers information requires utilizing memory space in the mobile unit and so deleting this information when its not being used will increase the unused memory capacity of the mobile unit and therefore there will be more memory available for use by other information.

Referring to claim 14, Brown discloses the system discussed above. Brown does not disclose that the MS periodically checks for the presence of the SIM in the MS and terminates a call when the MS determines that the SIM is no longer engaged with the MS. However, Cassidy discloses of a system wherein a mobile unit periodically checks for the SIM card and terminates calls when the SIM is removed and therefore determined not to be present (see column 4 lines 58-67 and column 5 lines 1-9)). It would have been obvious to one skilled in the art at the time of the invention to, in the system of Brown, periodically check for the presence of a SIM and terminating calls when the SIM is not present, as taught in Cassidy, because doing so would increase the security of the Brown system. Namely, since the SIM card is used for encrypting messages communicated by the mobile station, it is important to check and determine if the card is present in order to prevent any communications to be intercepted by possible malicious entities; therefore determining if the SIM is present and terminating the call when the SIM is not present will prevent this from occurring.

Art Unit: 2662

11. Claim 15, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown.

Referring to claim 15, Brown discloses the system discussed above. Brown does not disclose that the MS uses cdma2000 principles. However, cdma2000 is a well-known well-established and standardized wireless communications protocol. Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize the existing cdma2000 protocol in the system of Brown because doing so would decrease development costs since an entirely new protocol would not have to be used to implement the system of Brown.

12. Claims 19,20,33 and 34, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn in view of Thomas.

Referring to claims 19, 20, 33 and 34, Ahn discloses the system discussed above. Ahn does not disclose that the messages are origination or page response messages. However, as shown in Thomas it is a well-known standardized process in the art for mobile units to transmit mobile subscriber identity numbers in messages related to origination and paging messages (see column 2 lines 43-65). It would have been obvious to one skilled in the art at the time of the invention to transmit the IMSI number disclosed in Ahn in origination and page response messages, as taught in Thomas, because sending such identification numbers in these kinds of messages is well known and therefore doing so would reduce developmental costs that would be incurred if an entirely new type of message was to be implemented.

13. Claims 21 and 35, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn in view of Tiedemann.

Referring to claims 21 and 35, Ahn discloses the system discussed above. Ahn does not disclose that the MS selectively displays at least one service provider name. However, Tiedemann discloses of a system wherein mobile stations display the name of the service provider that is serving the mobile station (see column 2 lines 50-58)). It would have been obvious to one skilled in the art at the time of the invention to have the CDMA terminal of Ahn display the name of the service provider, as taught in Tiedemann, because as Tiedemann points out in column 2 lines 56-58, by knowing the name of the service provider a user can make a more educated estimate of roaming costs. This is particularly beneficial in Ahn since the CDMA terminal in Ahn roams between GSM and CDMA networks.

14. Claims 22 and 36, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn in view of Skog.

Referring to claims 22 and 36, Ahn discloses the system discussed above. Ahn does not disclose that the MS selectively displays at least one mobile directory number. However, Skog discloses a system wherein the mobile stations display directory numbers (see column 8 lines 45-51)). It would have been obvious to one skilled in the art at the time of the invention to display directory numbers, as taught in Skog, in the system of Ahn because, as Skog points out in column 8 lines 48-51, displaying the number enables the mobile subscriber to be informed of the calling part directory number associated with an incoming call that was attempted when the mobile station was unreachable. This would make the system of Ahn more reliable and versatile

Art Unit: 2662

in that when the CDMA terminal in Ahn is powered-up after being powered down for a period of time the user of the mobile station will know the number of the person who was trying to reach them during the powered-down period.

15. Claims 23 and 37, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn in view of Maruyama.

Referring to claims 23 and 37, Ahn discloses the system discussed above. Ahn does not disclose that the MS permits a user to use the MS only if the user inputs a predetermined verification value to the MS. However, Maruyama discloses a system wherein a user of a mobile unit must insert a personal identification code in order to operate the mobile station (see abstract and column 1 lines 19-57)). It would have been obvious to one skilled in the art at the time of the invention to implement the code inserting operation taught in Maruyama, in the system of Ahn because doing so would increase the level of security associated with the CDMA terminal by preventing individuals that do not know the personal identification code from using the mobile unit.

16. Claims 24-26 and 38-40, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn in view of *Cassidy*.

Referring to claims 24 and 38, Ahn discloses the system discussed above. Ahn does not disclose that the MS terminates a call upon removal of the SIM from the MS. However, Cassidy discloses a system comprising mobile stations wherein when SIM cards are removed from the mobile station any call in progress is terminated (see column 5 lines 1-9)). It would have been

Art Unit: 2662

obvious to one skilled in the art at the time of the invention to terminate calls made by the CDMA terminal in Ahn when the SIM is removed, as taught in Cassidy, because doing so would increase security of the system. Namely, since the SIM card is used for encrypting messages communicated by the CDMA terminal, removing the SIM would submit any communications made by the mobile station to interception by possible malicious entities; therefore terminating the call when the SIM is removed will prevent this from occurring.

Referring to claims 25 and 39, Ahn discloses the system discussed above. Ahn does not disclose deleting the subscriber information upon removal of the SIM from the MS. However, it would have been obvious to one skilled in the art at the time of the invention to delete the subscribers information when the SIM is removed because since the SIM is removed the mobile unit is not being used to make calls and therefore there is no need to retain the subscribers information any longer. Furthermore, retaining the subscribers information requires utilizing memory space in the mobile unit and so deleting this information when its not being used will increase the unused memory capacity of the mobile unit and therefore there will be more memory available for use by other information.

Referring to claims 26 and 40, Ahn discloses the system discussed above. Ahn does not disclose that the MS periodically checks for the presence of the SIM in the MS and terminates a call when the MS determines that the SIM is no longer engaged with the MS. However, Cassidy discloses of a system wherein a mobile unit periodically checks for the SIM card and terminates calls when the SIM is removed and therefore determined not to be present (see column 4 lines 58-67 and column 5 lines 1-9)). It would have been obvious to one skilled in the art at the time of the invention to, in the system of Ahn, periodically check for the presence of a SIM and

Art Unit: 2662

terminating calls when the SIM is not present, as taught in Cassidy, because doing so would increase the security of the Ahn system. Namely, since the SIM card is used for encrypting messages communicated by the mobile station, it is important to check and determine if the card is present in order to prevent any communications to be intercepted by possible malicious entities; therefore determining if the SIM is present and terminating the call when the SIM is not present will prevent this from occurring.

17. Claims 27 and 41, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn.

Referring to claims 27 and 41, Ahn discloses the system discussed above. Ahn does not disclose that the MS uses cdma2000 principles. However, cdma2000 is a well-known well-established and standardized wireless communications protocol. Therefore, it would have been obvious to one skilled in the art at the time of the invention to utilize the existing cdma2000 protocol in the system of Ahn because doing so would decrease development costs since an entirely new protocol would not have to be used to implement the system of Ahn.

Conclusion

18. The following prior art, which is made of record and not relied upon, is considered pertinent to applicant's disclosure:

- a. U.S. Patent Number 6438117 to Grilli et al.
- b. U.S. Patent Number 6320873 to Nevo et al.
- c. U.S. Patent Number 5157660 to Kuwahara et al.

Art Unit: 2662


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Odland, who can be reached at (703) 305-3231 on Monday – Friday during the hours of 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached at (703) 305-4744. The fax number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, who can be reached at (703) 305-4750.

deo

April 9, 2003



HASSAN KIZOU
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